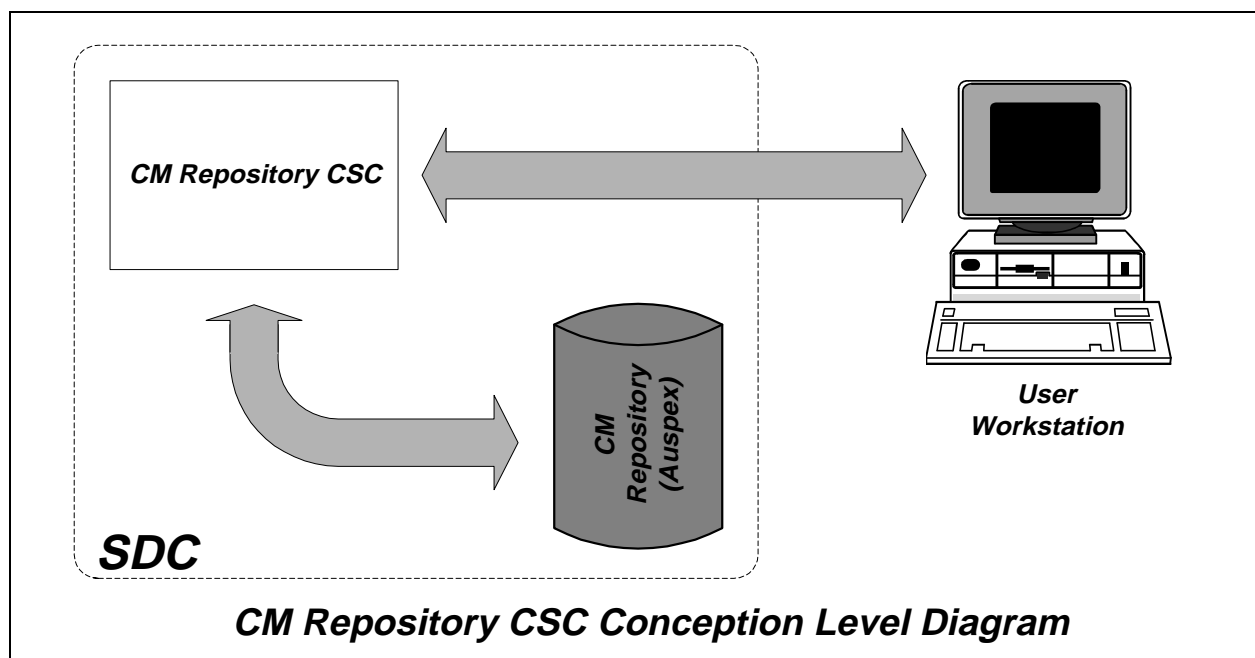# 1. CM Repository CSC

1.1 CM Repository CSC Introduction

1.1.1 CM Repository CSC Overview

The CM Repository CSC is responsible for storing and securing System Software, Application Software, and any other product used in CLCS baselines and deliveries. The CM Repository CSC is responsible for setting up and maintaining the CM Repository, as well as uniquely tagging all files that are part of a baseline. The CM Repository CSC is responsible for administering a media library used to store Platform Loads delivered by the System Services CSCI. The CM Repository will be setup and maintained on the Auspex which will eventually become part of the Shuttle Data Center (SDC).

CM Repository CSC Conception Level Diagram

1.1.2 CM Repository CSC Operational Description

The CM Repository CSC is the interface between the CLCS users and the CM Repository. The two most important aspects of this CSC relate to CM Administration and Documentation. In addition, the CM Repository CSC will define, create and maintain a media library for all delivered OS baselines and delivered COTS products.

The CM Repository CSC will provide CM Administration by maintaining and managing a CM Repository for all CLCS software. The CM Repository is located on the Auspex and contains Application Software, System Software, official project documents, and strategic office products. The CM Repository CSC also provides the interface that enables users to access the CM Repository. This interface will be provided by the CLCS CM tool selected by this CSC during Redstone. The delivered Juno CM tool, CVS, will be supported until the post-Redstone CM tool is fully implemented and operational. The CM Repository CSC will enable users to checkin and checkout files, define baselines, and access documentation (including reports and listings).

The CM Repository CSC will provide users with CM tool manuals and training material. Users will also be able to document changes made to any file as well as changes made to official project documents in the CM Repository.

1.2 CM Repository CSC Specifications

1.2.1 CM Repository CSC Ground Rules

CM Repository CSC will operate under the following ground rules:

- The CM Repository will reside on the Auspex which will eventually become part of the SDC.
- CSCI leaders are responsible for managing their files in the CM Repository during the development phase of each delivery.
- CSCI leaders are responsible for baselining their files in the CM Repository during the development phase.
- The users are responsible for manually merging the changes from a parallel development branch to the main branch during Redstone.
- *Italicized requirements* will **not** be implemented in Redstone.
- The Auspex will be backed up on a daily basis (incremental). Full backups will occur on a weekly basis.
- CSCIs must follow standards established by the Software Development Plan (84K00054).
- CSCIs must follow the standards established by the CM Development Plan (84K00052).

1.2.2 CM Repository CSC Functional Requirements

The Functional Requirements area is composed of the following sections:

1. CM Administration.
2. Documentation.

1. CM Administration:
   - **1.1.** The CM Repository CSC will create the CM Repository.
   - **1.2.** The CM Repository CSC will provide a means of accessing the CM Repository from the Software Development Environments.
   - **1.3.** The CM Repository CSC will provide both a GUI and a command line interface to the CM Repository.
   - **1.4.** The CM Repository CSC will partition the CM Repository by functional groups.
   - **1.5.** The CM Repository CSC will provide a storage area for official CLCS project documents in the CM Repository.
   - **1.6.** The CM Repository CSC will provide a means of uniquely identifying every version of a file stored in the CM Repository in the following format:

$$\langle filename \rangle . \langle majorID \rangle . \langle minorID \rangle$$
Example: sbl_screendef.h.1.3

   - **1.7.** The CM Repository CSC will provide a means of storing and managing multiple versions of CLCS software files, test files, design files, other associated files, and official project documents in the CM Repository.
   - **1.8.** The CM Repository CSC will provide a means of storing both ASCII and binary files in the CM Repository.
   - **1.9.** The CM Repository CSC will provide a means of reading any file or document stored in the CM Repository from a CLCS user's workstation.
   - **1.10.** The CM Repository CSC will provide a means of renaming files stored within the CM Repository.
   - **1.11.** The CM Repository CSC will provide a means of renaming directories stored within the CM Repository.
   - **1.12.** The CM Repository CSC will provide a means of checking out a specific version of a file for updates.
   - **1.13.** The CM Repository CSC will provide a means of identifying the user that has checked out a file.
   - **1.14.** The CM Repository CSC will prevent two users from checking out the same version of a file for updates.
   - **1.15.** The CM Repository CSC will provide a means of checking in an updated version of a file that has previously been checked out.

1.16. The CM Repository CSC will provide a means of creating a parallel development branch for any version of a file.

1.17. The CM Repository CSC will associate the version number of a parallel development branch with the version number of the original file.

1.18. The CM Repository CSC will provide a means of checking out a version of a file that belongs to a parallel development branch.

1.19. The CM Repository CSC will provide a means of terminating the updates to a parallel development branch.

1.20. The CM Repository CSC will provide a means of viewing the differences between any two versions of a file stored in the CM Repository.

1.21. The CM Repository CSC will provide a means of viewing the differences between a file stored in the CM Repository and a file that is not stored in the CM Repository.

1.22. The CM Repository CSC will provide a means of identifying a set of files, together with their version numbers, as a baseline within the CM Repository.

1.23. The CM Repository CSC will provide a means of adding any version of a file to an existing baseline in the CM Repository.

1.24. The CM Repository CSC will provide a means of deleting the latest version of a file that does not belong to any baseline, from the CM Repository.

1.25. The CM Repository CSC will provide a means of removing any version of a file from an existing baseline in the CM Repository.

1.26. The CM Repository CSC will provide a means of viewing the differences between any two baselines stored in the CM Repository.

1.27. The CM Repository CSC will provide a means of promoting a baseline defined in the CM Repository.

1.28. The CM Repository CSC will provide a means of protecting a baseline from unauthorized updates.

1.29. *The CM Repository CSC will provide a means of grouping users based on roles.*

1.30. *The CM Repository CSC will provide a means of controlling access to the CM Repository functions based on group membership.*

1.31. The CM Repository CSC will provide a means of creating a baseline from the contents of a previously defined baseline.

1.32. The CM Repository CSC will provide a means of generating a report for any baseline containing the following information:
- Baseline name and version number
- Date the baseline was created
- Name and version number of every file in the baseline
- Baseline status
- Target environment

1.33. The CM Repository CSC will provide a means of importing the contents of an existing CVS CM library into the CM Repository.

1.34. The CM Repository CSC will define, create, and maintain a media library for delivered OS baselines and delivered COTS products.

1.35. The CM Repository CSC will log and track checkout, checkin, and baseline activity in the CM Repository.

2. Documentation:

2.1. The CM Repository CSC will provide a tutorial to help CLCS users with grasping CVS during Redstone.

2.2. The CM Repository CSC will provide a CVS Reference Manual.

2.3. The CM Repository CSC will provide a user's manual for the post-Redstone CM tool.

2.4. The CM Repository CSC will provide training materials for the post-Redstone CM tool.

2.5. The CM Repository CSC will provide a means of documenting Code Reviews performed on files stored in the CM Repository.

2.6. The CM Repository CSC will provide a means of documenting changes made to any file in the CM Repository. This includes Change Requests (CR), Problem Reports (PR), Engineering Change Request (ESR), and Review Item Disposition (RID).

2.7. The CM Repository CSC will provide a means of documenting and tracking changes made to official project documents.

2.8. *The CM Repository CSC will provide access to the CM Repository via Hyper-text Transfer Protocol.*

1.2.3 CM Repository CSC Performance Requirements

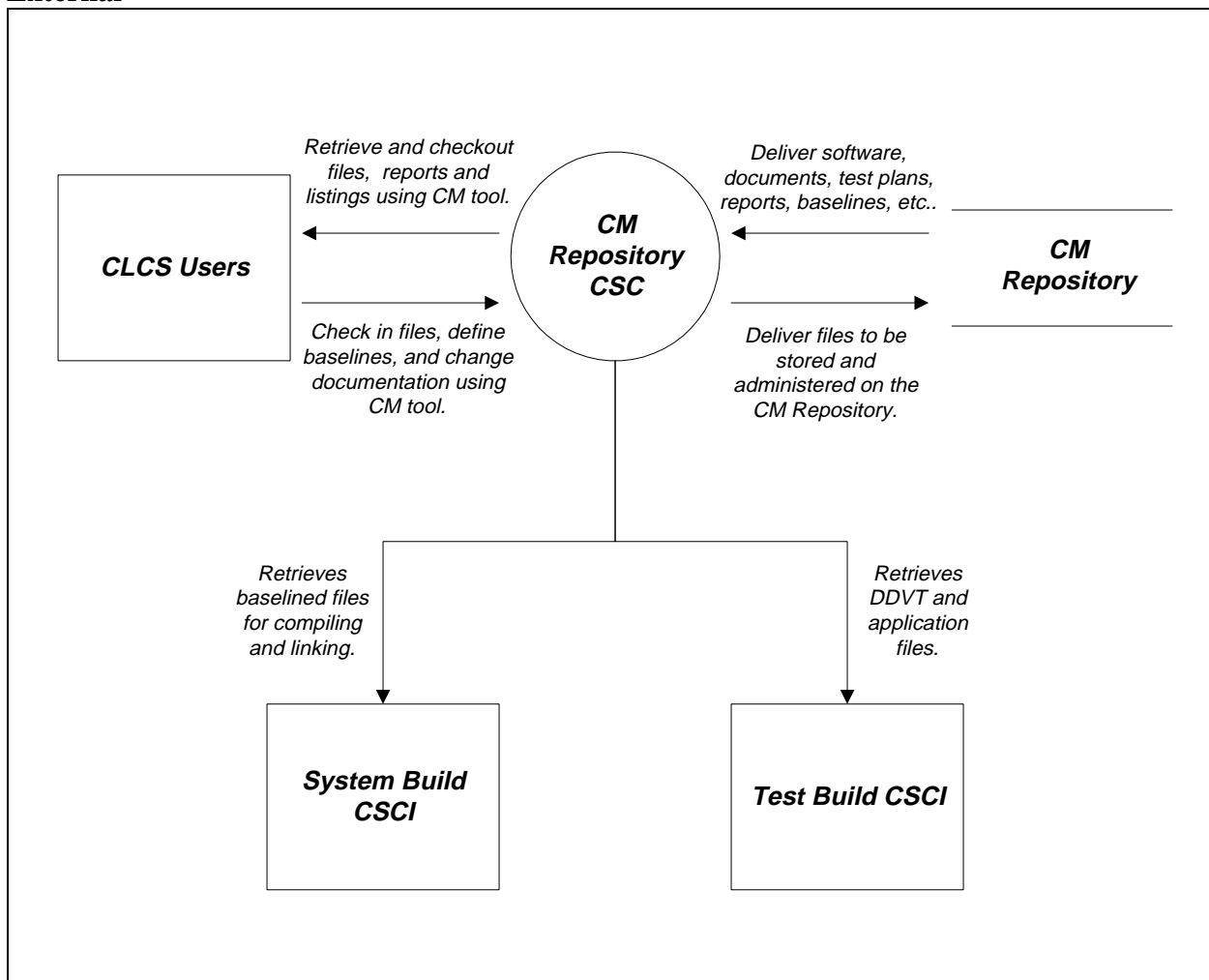No specific performance requirements have been established for Redstone.

1.2.4 CM Repository CSC Interfaces

The CM Repository CSC will interface with the following groups:
- System Build CSCI
- Test Build CSCI
- CLCS Users

1.2.5 CM Repository CSC Data Flow Diagram

External

CLCS Development Environment CSCI
CM Repository CSC
Redstone Requirement Review

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